



SEQUENCE LISTING

<110> Stashenko, Philip
Okamatsu, Yoshimura
Sasaki, Hajime
Battaglino, Richard
Spaete, Ulrike

<120> Expressed Genes that Define the Osteoclast Phenotype

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<140> 10/734,692

<141> 2003-12-11

<150> 60/432,700

<151> 2002-12-11

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<170> PatentIn version 3.2

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Leu Val Gly Asn Ile Leu Val Val Leu Val Leu Val Gln Tyr Lys Arg
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Leu Lys Asn Met Thr Ser Ile Tyr Leu Leu Asn Leu Ala Ile Ser Asp
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Arg Glu Trp Lys Leu Phe Gln Ala Leu Lys Leu Asn Leu Phe Gly Leu
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Cys Glu Gln Ser Arg His Leu Asp Leu Ala Val Gln Val Thr Glu Val
275 280 285

Ile Ala Tyr Thr His Cys Cys Val Asn Pro Val Ile Tyr Ala Phe Val
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Leu Lys Asn Met Thr Ser Ile Tyr Leu Leu Asn Leu Ala Ile Ser Asp
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Leu Leu Phe Leu Phe Thr Leu Pro Phe Trp Ile Asp Tyr Lys Leu Lys
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Asp Asp Trp Val Phe Gly Asp Ala Met Cys Lys Ile Leu Ser Gly Phe
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Tyr Tyr Thr Gly Leu Tyr Ser Glu Ile Phe Phe Ile Ile Leu Leu Thr
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Ile Asp Arg Tyr Leu Ala Ile Val His Ala Val Phe Ala Leu Arg Ala
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Arg Thr Val Thr Phe Gly Val Ile Thr Ser Ile Ile Ile Trp Ala Leu
145 150 155 160

Ala Ile Leu Ala Ser Met Pro Gly Leu Tyr Phe Ser Lys Thr Gln Trp
165 170 175

Glu Phe Thr His His Thr Cys Ser Leu His Phe Pro His Glu Ser Leu
180 185 190

Arg Glu Trp Lys Leu Phe Gln Ala Leu Lys Leu Asn Leu Phe Gly Leu
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Val Leu Pro Leu Leu Val Met Ile Ile Cys Tyr Thr Gly Ile Ile Lys
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Ile Leu Leu Arg Arg Pro Asn Glu Lys Lys Ser Lys Ala Val Arg Leu
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Cys Glu Gln Ser Arg His Leu Asp Leu Ala Val Gln Val Thr Glu Val
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Ile Ala Tyr Thr His Cys Cys Val Asn Pro Val Ile Tyr Ala Phe Val
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Gly Glu Arg Phe Arg Lys Tyr Leu Arg Gln Leu Phe His Arg Arg Val
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<400> 31

Met	Met	Ser	Met	Asn	Ser	Lys	Gln	Pro	His	Phe	Ala	Met	His	Pro	Thr
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Leu	Pro	Glu	His	Lys	Tyr	Pro	Ser	Leu	His	Ser	Ser	Ser	Glu	Ala	Ile
			20					25					30		

Arg Arg Ala Cys Leu Pro Thr Pro Pro Leu Gln Ser Asn Leu Phe Ala
 35 40 45

Ser Leu Asp Glu Thr Leu Leu Ala Arg Ala Glu Ala Leu Ala Ala Val
 50 55 60

Asp Ile Ala Val Ser Gln Gly Lys Ser His Pro Phe Lys Pro Asp Ala
 65 70 75 80

Thr Tyr His Thr Met Asn Ser Val Pro Cys Thr Ser Thr Ser Thr Val
 85 90 95

Pro Leu Ala His His His His His His His His His Gln Ala Leu Glu
 100 105 110

Pro Gly Asp Leu Leu Asp His Ile Ser Ser Pro Ser Leu Ala Leu Met
 115 120 125

Ala Gly Ala Gly Gly Ala Gly Ala Ala Gly Gly Gly Gly Gly Ala His
 130 135 140

Asp Gly Pro Gly Gly Gly Gly Gly Gly Pro Gly Gly Gly Gly Gly Pro Gly
 145 150 155 160

Gly Gly Gly Pro Gly Gly Gly Gly Gly Gly Gly Gly Gly Pro Gly Gly Gly
 165 170 175

Gly Gly Ala Pro Gly Gly Gly Leu Leu Gly Gly Ser Ala His Pro His
 180 185 190

Pro His Met His Gly Leu Gly His Leu Ser His Pro Ala Ala Ala Ala
 195 200 205

Ala Met Asn Met Pro Ser Gly Leu Pro His Pro Gly Leu Val Ala Ala
 210 215 220

Ala Ala His His Gly Ala Ala Ala Ala Ala Ala Ala Ala Ala Gly
 225 230 235 240

Gln Val Ala Ala Ala Ser Ala Ala Ala Ala Val Val Gly Ala Ala Gly
 245 250 255

Leu Ala Ser Ile Cys Asp Ser Asp Thr Asp Pro Arg Glu Leu Glu Ala
 260 265 270

Phe Ala Glu Arg Phe Lys Gln Arg Arg Ile Lys Leu Gly Val Thr Gln
 275 280 285

Ala Asp Val Gly Ser Ala Leu Ala Asn Leu Lys Ile Pro Gly Val Gly
 290 295 300

Ser Leu Ser Gln Ser Thr Ile Cys Arg Phe Glu Ser Leu Thr Leu Ser
 305 310 315 320

His Asn Asn Met Ile Ala Leu Lys Pro Ile Leu Gln Ala Trp Leu Glu
 325 330 335

Glu Ala Glu Gly Ala Gln Arg Glu Lys Met Asn Lys Pro Glu Leu Phe
 340 345 350

Asn Gly Gly Glu Lys Lys Arg Lys Arg Thr Ser Ile Ala Ala Pro Glu
 355 360 365

Lys Arg Ser Leu Glu Ala Tyr Phe Ala Val Gln Pro Arg Pro Ser Ser
 370 375 380

Glu Lys Ile Ala Ala Ile Ala Glu Lys Leu Asp Leu Lys Lys Asn Val
 385 390 395 400

Val Arg Val Trp Phe Cys Asn Gln Arg Gln Lys Gln Lys Arg Met Lys
 405 410 415

Phe Ser Ala Thr Tyr
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<210> 32
 <211> 123
 <212> DNA
 <213> Homo sapiens

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 aagtaccggt cgctgcactc cagctccgag gccatccggc gggcctgcct gccacgccc 120
 ccg 123

<210> 33
 <211> 1149
 <212> DNA
 <213> Homo sapiens

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 caccaccacc accaccacca ccaggcgctc gaaccgggc atctgctgga ccacatctcc 240
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 ggcggcgggc gcgcccacga cggcccgggg ggcggtggcg gcccgggcgg cgcgcgcggc 360
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 acttactga 1149

<210> 34
 <211> 423
 <212> PRT
 <213> Homo sapiens

<400> 34

Met	Met	Ser	Met	Asn	Ser	Lys	Gln	Pro	His	Phe	Ala	Met	His	Pro	Thr
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Leu Pro Glu His Lys Tyr Pro Ser Leu His Ser Ser Ser Glu Ala Ile
 20 25 30

Arg Arg Ala Cys Leu Pro Thr Pro Pro Leu Gln Ser Asn Leu Phe Ala
 35 40 45

Ser Leu Asp Glu Thr Leu Leu Ala Arg Ala Glu Ala Leu Ala Ala Val
 50 55 60

Asp Ile Ala Val Ser Gln Gly Lys Ser His Pro Phe Lys Pro Asp Ala
 65 70 75 80

Thr Tyr His Thr Met Asn Ser Val Pro Cys Thr Ser Thr Ser Thr Val
 85 90 95

Pro Leu Arg His His His His His His His His His Gln Ala Leu Glu
 100 105 110

Pro Gly Asp Leu Leu Asp His Ile Ser Ser Pro Ser Leu Ala Leu Met
 115 120 125

Ala Gly Ala Gly Gly Ala Gly Gly Ala Gly Ala Ala Ala Gly Gly Gly
 130 135 140

Gly Ala His Asp Gly Pro Gly Gly Gly Gly Gly Pro Gly Gly Gly Gly
 145 150 155 160

Gly Pro Gly Gly Gly Gly Pro Gly Gly Gly Gly Gly Gly Gly Pro Gly
 165 170 175

Gly Gly Gly Gly Gly Pro Gly Gly Gly Leu Leu Gly Gly Ser Ala His
 180 185 190

Pro His Pro His Met His Ser Leu Gly His Leu Ser His Pro Ala Ala
 195 200 205

Ala Ala Ala Met Asn Met Pro Ser Gly Leu Pro His Pro Gly Leu Val
 210 215 220

Ala Ala Ala Ala His His Gly Ala Ala Ala Ala Ala Ala Ala Ala Ala
 225 230 235 240

Ala Gly Gln Val Ala Ala Ala Ser Ala Ala Ala Val Val Gly Ala
245 250 255

Ala Gly Leu Ala Ser Ile Cys Asp Ser Asp Thr Asp Pro Arg Glu Leu
260 265 270

Glu Ala Phe Ala Glu Arg Phe Lys Gln Arg Arg Ile Lys Leu Gly Val
275 280 285

Thr Gln Ala Asp Val Gly Ser Ala Leu Ala Asn Leu Lys Ile Pro Gly
290 295 300

Val Gly Ser Leu Ser Gln Ser Thr Ile Cys Arg Phe Glu Ser Leu Thr
305 310 315 320

Leu Ser His Asn Asn Met Ile Ala Leu Lys Pro Ile Leu Gln Ala Trp
325 330 335

Leu Glu Glu Ala Glu Gly Ala Gln Arg Glu Lys Met Asn Lys Pro Glu
340 345 350

Leu Phe Asn Gly Gly Glu Lys Lys Arg Lys Arg Thr Ser Ile Ala Ala
355 360 365

Pro Glu Lys Arg Ser Leu Glu Ala Tyr Phe Ala Val Gln Pro Arg Pro
370 375 380

Ser Ser Glu Lys Ile Ala Ala Ile Ala Glu Lys Leu Asp Leu Lys Lys
385 390 395 400

Asn Val Val Arg Val Trp Phe Cys Asn Gln Arg Gln Lys Gln Lys Arg
405 410 415

Met Lys Phe Ser Ala Thr Tyr
420

<210> 35

<211> 1091

<212> DNA

<213> Mus musculus

<400> 35

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<210> 36
 <211> 322
 <212> PRT
 <213> Mus musculus

<400> 36

Met Cys Ala Phe Tyr Leu Gln Leu Gln Ser Asn Ile Phe Gly Gly Leu
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Asp Glu Ser Leu Leu Ala Arg Ala Glu Ala Leu Ala Ala Val Asp Ile
 20 25 30

Val Ser Gln Ser Lys Ser His His His His Pro Pro His His Ser Pro
 35 40 45

Phe Lys Pro Asp Ala Thr Tyr His Thr Met Asn Thr Ile Pro Cys Thr

50	55	60
Ser Ala Ala Ser Ser Ser Val Pro Ile Ser His Pro Ser Ala Leu		
65	70	75 80
Ala Gly Thr His His His His His His His His His His His Gln		
	85	90 95
Pro His Gln Ala Leu Glu Gly Glu Leu Leu Glu His Leu Ser Pro Gly		
	100	105 110
Leu Ala Leu Gly Ala Met Ala Gly Pro Asp Gly Thr Val Val Ser Thr		
	115	120 125
Pro Ala His Ala Pro His Met Ala Thr Met Asn Pro Met His Gln Ala		
	130	135 140
Ala Leu Ser Met Ala His Ala His Gly Leu Pro Ser His Met Gly Cys		
	145	150 155 160
Met Ser Asp Val Asp Ala Asp Pro Arg Asp Leu Glu Ala Phe Ala Glu		
	165	170 175
Arg Phe Lys Gln Arg Arg Ile Lys Leu Gly Val Thr Gln Ala Asp Val		
	180	185 190
Gly Ser Ala Leu Ala Asn Leu Lys Ile Pro Gly Val Gly Ser Leu Ser		
	195	200 205
Gln Ser Thr Ile Cys Arg Phe Glu Ser Leu Thr Leu Ser His Asn Asn		
	210	215 220
Met Ile Ala Leu Lys Pro Ile Leu Gln Ala Trp Leu Glu Glu Ala Glu		
	225	230 235 240
Lys Ser His Arg Glu Lys Leu Thr Lys Pro Glu Leu Phe Asn Gly Ala		
	245	250 255
Glu Lys Lys Arg Lys Arg Thr Ser Ile Ala Ala Pro Glu Lys Arg Ser		
	260	265 270
Leu Glu Ala Tyr Phe Ala Ile Gln Pro Arg Pro Ser Ser Glu Lys Ile		
	275	280 285

Ala Ala Ile Ala Glu Lys Leu Asp Leu Lys Lys Asn Val Val Arg Val
 290 295 300

Trp Phe Cys Asn Gln Arg Gln Lys Lys Lys Val Lys Tyr Ser Ala
 305 310 315 320

Gly Ile

<210> 37
 <211> 3110
 <212> DNA
 <213> Homo sapiens

<400> 37
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<210> 38
 <211> 410
 <212> PRT
 <213> Homo sapiens

<400> 38

Met Met Met Met Ser Leu Asn Ser Lys Gln Ala Phe Ser Met Pro His
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Gly Gly Ser Leu His Val Glu Pro Lys Tyr Ser Ala Leu His Ser Thr
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Ser Pro Gly Ser Ser Ala Pro Ile Ala Pro Ser Ala Ser Ser Pro Ser
 35 40 45

Ser Ser Ser Asn Ala Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly
 50 55 60

Gly Gly Gly Gly Gly Arg Ser Ser Ser Ser Ser Ser Ser Gly Ser Ser
 65 70 75 80

Gly Gly Gly Gly Ser Glu Ala Met Arg Arg Ala Cys Leu Pro Thr Pro
 85 90 95

Pro Ser Asn Ile Phe Gly Gly Leu Asp Glu Ser Leu Leu Ala Arg Ala
 100 105 110

Glu Ala Leu Ala Ala Val Asp Ile Val Ser Gln Ser Lys Ser His His
 115 120 125

His His Pro Pro His His Ser Pro Phe Lys Pro Asp Ala Thr Tyr His
 130 135 140

Thr Met Asn Thr Ile Pro Cys Thr Ser Ala Ala Ser Ser Ser Ser Val
 145 150 155 160

Pro Ile Ser His Pro Cys Ala Leu Ala Gly Thr His His His His His
165 170 175

His His His His His His His Gln Pro His Gln Ala Leu Glu Gly Glu
180 185 190

Leu Leu Glu His Leu Ser Pro Gly Leu Ala Leu Gly Ala Met Ala Gly
195 200 205

Pro Asp Gly Ala Val Val Ser Thr Pro Ala His Ala Pro His Met Ala
210 215 220

Thr Met Asn Pro Met His Gln Ala Ala Leu Ser Met Ala His Ala His
225 230 235 240

Gly Leu Pro Ser His Met Gly Cys Met Ser Asp Val Asp Ala Asp Pro
245 250 255

Arg Asp Leu Glu Ala Phe Ala Glu Arg Phe Lys Gln Arg Arg Ile Lys
260 265 270

Leu Gly Val Thr Gln Ala Asp Val Gly Ser Ala Leu Ala Asn Leu Lys
275 280 285

Ile Pro Gly Val Gly Ser Leu Ser Gln Ser Thr Ile Cys Arg Phe Glu
290 295 300

Ser Leu Thr Leu Ser His Asn Asn Met Ile Ala Leu Lys Pro Ile Leu
305 310 315 320

Gln Ala Trp Leu Glu Glu Ala Glu Lys Ser His Arg Glu Lys Leu Thr
325 330 335

Lys Pro Glu Leu Phe Asn Gly Ala Glu Lys Lys Arg Lys Arg Thr Ser
340 345 350

Ile Ala Ala Pro Glu Lys Arg Ser Leu Glu Ala Tyr Phe Ala Ile Gln
355 360 365

Pro Arg Pro Ser Ser Glu Lys Ile Ala Ala Ile Ala Glu Lys Leu Asp
370 375 380

Leu Lys Lys Asn Val Val Arg Val Trp Phe Cys Asn Gln Arg Gln Lys
 385 390 395 400

Gln Lys Arg Met Lys Tyr Ser Ala Gly Ile
 405 410

<210> 39

<211> 1594

<212> DNA

<213> Mus musculus

<400> 39

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<210> 40
<211> 338
<212> PRT
<213> Mus musculus

<400> 40

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Gln Glu Pro Lys Phe Ser Ser Leu His Ser Gly Ser Glu Ala Met Arg
20 25 30

Arg Val Cys Leu Pro Ala Pro Gln Leu Gln Gly Asn Ile Phe Gly Ser
35 40 45

Phe Asp Glu Ser Leu Leu Ala Arg Ala Glu Ala Leu Ala Ala Val Asp
50 55 60

Ile Val Ser His Gly Lys Asn His Pro Phe Lys Pro Asp Ala Thr Tyr
65 70 75 80

His Thr Met Ser Ser Val Pro Cys Thr Ser Thr Ser Pro Thr Val Pro
85 90 95

Ile Ser His Pro Ala Ala Leu Thr Ser His Pro His His Ala Val His
100 105 110

Gln Gly Leu Glu Gly Asp Leu Leu Glu His Ile Ser Pro Thr Leu Ser
115 120 125

Val Ser Gly Leu Gly Ala Pro Glu His Ser Val Met Pro Ala Gln Ile
130 135 140

His Pro His His Leu Gly Ala Met Gly His Leu His Gln Ala Met Gly
145 150 155 160

Met Ser His Pro His Ala Val Ala Pro His Ser Ala Met Pro Ala Cys
165 170 175

Leu Ser Asp Val Glu Ser Asp Pro Arg Glu Leu Glu Ala Phe Ala Glu
180 185 190

Arg Phe Lys Gln Arg Arg Ile Lys Leu Gly Val Thr Gln Ala Asp Val
195 200 205

Gly Ala Ala Leu Ala Asn Leu Lys Ile Pro Gly Val Gly Ser Leu Ser
210 215 220

Gln Ser Thr Ile Cys Arg Phe Glu Ser Leu Thr Leu Ser His Asn Asn
225 230 235 240

Met Ile Ala Leu Lys Pro Val Leu Gln Ala Trp Leu Glu Glu Ala Glu
245 250 255

Ala Ala Tyr Arg Glu Lys Asn Ser Lys Pro Glu Leu Phe Asn Gly Ser
260 265 270

Glu Arg Lys Arg Lys Arg Thr Ser Ile Ala Ala Pro Glu Lys Arg Ser
275 280 285

Leu Glu Ala Tyr Phe Ala Ile Gln Pro Arg Pro Ser Ser Glu Lys Ile
290 295 300

Ala Ala Ile Ala Glu Lys Leu Asp Leu Lys Lys Asn Val Val Arg Val
305 310 315 320

Trp Phe Cys Asn Gln Arg Gln Lys Gln Lys Arg Met Lys Tyr Ser Ala
325 330 335

Val Asp

<210> 41

<211> 120

<212> DNA

<213> Homo sapiens

<400> 41

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<210> 42
 <211> 897
 <212> DNA
 <213> Homo sapiens

<400> 42
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 gctgcgctca cctcacaccc tcaccacgcc gtgcaccagg gcctcgaagg cgacctgctg 240
 gagcacatct cgcccacgct gagtgtgagc ggcctgggcg ctccggaaca ctcggtgatg 300
 cccgcacaga tccatccaca ccacctgggc gccatgggccc acctgcacca ggccatgggc 360
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 <211> 338
 <212> PRT
 <213> Homo sapiens

<400> 43
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 Arg Val Cys Leu Pro Ala Pro Gln Leu Gln Gly Asn Ile Phe Gly Ser

35					40					45					
Phe	Asp	Glu	Ser	Leu	Leu	Ala	Arg	Ala	Glu	Ala	Leu	Ala	Ala	Val	Asp
	50					55					60				
Ile	Val	Ser	His	Gly	Lys	Asn	His	Pro	Phe	Lys	Pro	Asp	Ala	Thr	Tyr
65					70					75					80
His	Thr	Met	Ser	Ser	Val	Pro	Cys	Thr	Ser	Thr	Ser	Ser	Thr	Val	Pro
				85					90					95	
Ile	Ser	His	Pro	Ala	Ala	Leu	Thr	Ser	His	Pro	His	His	Ala	Val	His
			100					105					110		
Gln	Gly	Leu	Glu	Gly	Asp	Leu	Leu	Glu	His	Ile	Ser	Pro	Thr	Leu	Ser
		115					120					125			
Val	Ser	Gly	Leu	Gly	Ala	Pro	Glu	His	Ser	Val	Met	Pro	Ala	Gln	Ile
	130					135					140				
His	Pro	His	His	Leu	Gly	Ala	Met	Gly	His	Leu	His	Gln	Ala	Met	Gly
145					150					155					160
Met	Ser	His	Pro	His	Thr	Val	Ala	Pro	His	Ser	Ala	Met	Pro	Ala	Cys
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Leu	Ser	Asp	Val	Glu	Ser	Asp	Pro	Arg	Glu	Leu	Glu	Ala	Phe	Ala	Glu
			180					185					190		
Arg	Phe	Lys	Gln	Arg	Arg	Ile	Lys	Leu	Gly	Val	Thr	Gln	Ala	Asp	Val
		195					200					205			
Gly	Ala	Ala	Leu	Ala	Asn	Leu	Lys	Ile	Pro	Gly	Val	Gly	Ser	Leu	Ser
	210					215					220				
Gln	Ser	Thr	Ile	Cys	Arg	Phe	Glu	Ser	Leu	Thr	Leu	Ser	His	Asn	Asn
225					230					235					240
Met	Ile	Ala	Leu	Lys	Pro	Val	Leu	Gln	Ala	Trp	Leu	Glu	Glu	Ala	Glu
				245					250					255	
Ala	Ala	Tyr	Arg	Glu	Lys	Asn	Ser	Lys	Pro	Glu	Leu	Phe	Asn	Gly	Ser
			260					265					270		

Glu Arg Lys Arg Lys Arg Thr Ser Ile Ala Ala Pro Glu Lys Arg Ser
 275 280 285

Leu Glu Ala Tyr Phe Ala Ile Gln Pro Arg Pro Ser Ser Glu Lys Ile
 290 295 300

Ala Ala Ile Ala Glu Lys Leu Asp Leu Lys Lys Asn Val Val Arg Val
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Val His

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<400> 46
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<210> 47
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 <212> DNA
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<400> 47
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<210> 48
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<212> DNA
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<210> 49
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<212> DNA
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<400> 49
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